

YouTube Educational Videos in Bridging the Learning Gaps among School Students

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Abstract

Videos have a long-term effect on learners. YouTube plays a major role in enhancing the learning of school students after school hours whenever they need to study at their own pace. When they learn from YouTube, the same concept can be explained by different teachers, and the best part is that they can learn at their own pace. YouTube acts as a complementary learning platform that fulfils the learning needs of learners with educational videos. The purpose is to find out the effects of YouTube educational Videos on learning among school students as Net Generation learners. The research is related to Educational Technology in which a questionnaire is prepared to ask general questions about YouTube and how YouTube educational videos help in studies and to improve the learning gaps, clearing doubts that arise in studies. Mixed Method Research design is used to conduct research. Both Quantitative and Qualitative methods are used to collect the data. A questionnaire is prepared, and data is collected through Google Forms. Semi-structured interviews are conducted to collect the data. The sample taken are school students from class 6th-8th. The major findings are that YouTube videos help school students fill their learning gaps by mobile learning using their mobile by doing self-paced learning, and videos have long-lasting effects on their learning.

Keywords: YouTube, Technology, Videos, Self-Paced Learning, Mobile Learning, Net Generation

Introduction

YouTube is a platform where videos can be shared and explored by the viewers. It is one of the most frequently accessed websites on the Internet (Chau, 2010). YouTube is a well-known video-sharing platform for uploading, sharing, and viewing video clips (Duffy, 2008). Its popularity increased day by day, and the boost-up period came during the lockdown itself. Researchers can see the boost so much that this portal changes into a community where people bond with peers, acquire new skills, explore, and engage in discourse activities of learning using this YouTube platform (Chau, 2010). The 21st century wants to stay connected in groups and

wants to learn in groups rather than in isolation. Collaboration plays an integral role in net generation. The integration of emerging technologies helps create a community and collaboration that leads to the development of effective teaching models (Beldarrain, 2004). YouTube helps in creating groups and communities and thus leads to collaborative learning, which helps learners to collaborate with peers. Today's generation can be referred to as the Net-generation as they are very familiar with the Internet, its various features, and effective use of technology. Lockdown has had a significant influence on making learners tech-friendly and has opened the

doors for the successful integration of technology in education. The integration of technology is a boon for the effective teaching-learning process.

Background information

YouTube has a long history of being created, and how its popularity has increased so far that even students and small kids can be seen scrolling and using it as a medium to study. It was created in the year 2005. Although it has a long history of growth, it is so popular today that even laymen use this app for various purposes. History of YouTube Educational videos create an impact on students towards learning the content in a way that content retains for a longer period and is understandable. YouTube is a source of all types of content and learners can access content anytime according to their need and availability of time. YouTube acts as a complementary learning platform that fulfils the learning needs of learners with educational videos. As a platform that supports participatory culture, YouTube allows exhibition spaces that provide exposure that leads to recognition, feedback, and opportunities for collaboration (Chau, 2010).

Significance of the research

Chtouki. et al. (2012) YouTube has the greatest advantage as it is a free web-based service that provides short and relevant content and important concepts are there which are also taught in school. (Prensky, 2001) pointed out that "future content" as future content needs to be digital and technological to meet the needs of the learners. He suggests that learning new stuff using different ways is more important than learning anything, and YouTube plays an important role in it. This research helps to know exactly how much time learners spend on YouTube for educational purposes and the effects of videos on

retaining the content for the long term. This research is helpful in exploring the importance and effects of YouTube educational videos among school students. The purpose is to explore the impact of YouTube on the mindset of school students and help in self-paced learning among learners. (Kohler, 2021) YouTube has great accessibility nowadays, and due to its low-barrier functions, this platform has a great advantage in transmitting scientific knowledge. Self-paced learning is very crucial in today's era to cater to the individual needs of the learners as they can learn anytime, anywhere, at their own choice. YouTube, as an educational platform, has the capability to promote self-paced learning among learners.

Research Objectives

- To explore the effectiveness of Videos in better learning.
- To what extent can YouTube educational videos help bridge the learning gaps among school students?
- Recognizing the effectiveness of YouTube videos can help in retaining the content for a longer period.
- To identify the effectiveness of YouTube educational videos to promote self-paced learning among learners.
- Research problems or questions
- To what extent do YouTube educational videos help in bridging the learning gaps among school students?
- Why are videos effective in better learning?
- How do YouTube educational videos help in retaining the content for a longer period?
- How do YouTube educational videos promote self-paced learning among learners?

Review of Related Literature

Much research has been done on the usage of YouTube for educational purposes. Chau (2010), YouTube acts as an intersection of media creation and social networking that provides young people with a participatory culture in which they can create and share original content in this era. According to Chau (2010), Participatory culture contains five major characteristics that are relatively low barriers to artistic expression and civic engagement, strong support for creating and sharing one's project, Informal mentorship, a belief that contribution matters, and a sense of social connection. (Duffy, 2008) YouTube and some other web 2.0 technologies play a significant role in education as an engagement tool among net generation learners. Roodt and Peier (2013) conducted Research on Undergraduate students to check out how YouTube can help in student engagement. Students' classes are being taken through YouTube for the whole semester, and at the end of the semester, a Questionnaire is filled out by the participants to explore the impact of YouTube videos on net-generation learners. Duffy (2012) points out that the new "Learning Ecology" is present where Web 2.0 plays a significant role in collaboration and creative evaluation. Research suggests some specific features of Videos to be an effective tool in the study and a semi-structured contributing factor in this. Jia (2019) has done an extensive literature review where the comparison of the benefits and limitations of YouTube videos in education is made. Otchie (2020) researched to find the answer to the question Can YouTube videos facilitate the teaching and learning of STEM subjects in high schools?. (Fleck, 2014) pointed out that blended learning theory and Information processing theory work towards the integration of technology in the classroom ,and it is a

successful integration. Blended learning theory talks about the involvement and usage of Web 2.0 increases; instructors are using multimedia and different platforms in teaching. Elareshi & et al. (2022) made a hybrid analysis SEM-ANN-based approach in understanding students' academic performance by the adoption of YouTube for learning during Covid. The major findings from this research clearly show that respondents are willing to use technology, applications and support for the usage of YouTube in Academia. From all these studies, it is clear that YouTube has the potential to apply in education and act as a helpful aid to bridge the learning gaps among individuals.

Key theories or concepts

Kearsley and Shneiderman (1998) summarized the work and created an Engagement theory: A framework for Technology-based Teaching and learning. Engagement theory emphasizes on building a successful collaborative team to work on ambitious projects that help in meaningful learning outside the classroom. The three major components are Relate-Create- Donate required in activities that occur in groups, such as the creation of collaborative teams, project-based activities, and having an outside authenticity. P. Duffy (2013) suggests video learning should not be passive and suggests guidelines for using videos effectively as they contain various aspects that are essential for the effectiveness of video learning. These aspects include segment, notes, pause, sound off feature, picture off, preview, integration, cut, focus, and feedback. Segment allows students to watch the videos in small segments, not as a whole at a time. Note-taking is an important characteristic feature of videos. The video should be like that, which allows you to take notes and then rewind the video and check the notes,

whether individually or in a group, like a brainstorming activity. The pause feature suggests that the video should allow this feature to pause to memorize and recall any picture for better engagement. The sound-off feature is important and the best technique for listing out the steps of a process. Picture off feature focuses on the audio that audio clues are given, and prion is made. Previews suggest that each video should show the learning objectives of the lesson. The integration feature of video has features that will be able to integrate the experimental content into the conceptual knowledge. That feature allows the usage of online video editors to capture. The focus feature allows to enhance the focus of the student, starting the video with an activity that can be conducted to enhance meaningful learning. Feedback plays an important role in making the significance of the video and relating the video for long-term usability.

Gaps in the literature

Much research is being conducted in this area of the Educational field. Mobile learning and its impact on students' learning have been explored, as well as the side effects and usage of technology in education. This study focuses on identifying the importance of YouTube educational videos to fill the learning gaps in studies and to improve the academics of school students by increasing self-paced learning. Self-paced learning is important to cater to the individual differences among learners. Whether YouTube has that potential needs to be explored through this research, as well as the significance of educational videos for school students.

Research Methodology

A mixed Design research method is used that includes both Qualitative

and Quantitative Approaches for which the Questionnaire is prepared, and the questions are both open-ended to analyze qualitative and Quantitative Analysis. Interviews are also being conducted with students of various schools to check the effect of YouTube educational videos on their studies. For Qualitative Design, the data is collected through interview schedules; major themes are identified as time spent on YouTube by the students, purpose of study, and time slots for using YouTube.

Tool

Questions are prepared of both types open-ended and closed-ended. Also, the interviews were conducted with school students. Questions prepared related to YouTube as whether students are familiar with the portal or not, how much time they spend on YouTube, whether they are able to get quality education through YouTube, and what is the significant role of these educational videos in improving their academic performance. Google form is used to collect data, and semi-structured interviews are conducted in which data is gathered through school students who use YouTube as a medium of study. Open-ended questions are asked to them, and their personal experience of learning is asked while studying through YouTube as a medium of the platform.

Sample and data collection methods

Random sampling technique is used as different school students of different classes are used to collect the data. Data is collected through Google Forms. A questionnaire is prepared to collect the data from school students and Google form is used as a medium to find out the answers. 5-point rating scale, open-ended questions to analyze data qualitatively and also close-ended questions to analyze the opinion of the learners. School students of classes 6th

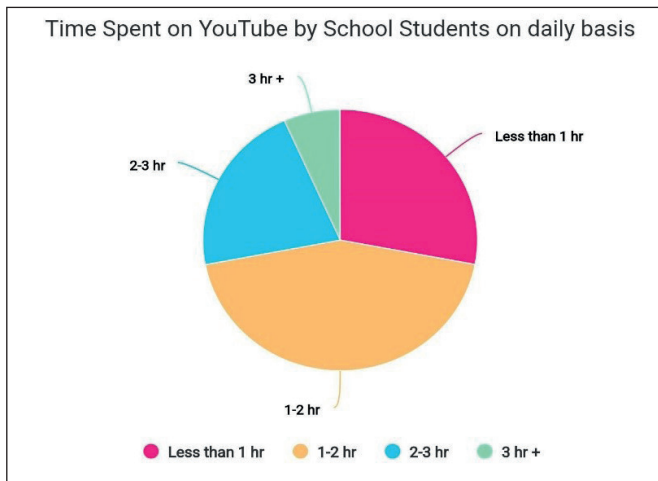
-12th are used as a sample to conduct this study. Data is presented through pie chart and bar graph based on the utility. Also, theme based data analysis is done through the study.

Data Findings and Interpretations

It has been found that all the students are familiar with the YouTube videos and use YouTube as a platform to study. Total 75 participants participated in the questionnaire through Google form out of which 40 per cent are female that are 30 and 60 per cent are male that are 45. All of them know about YouTube and know about certain YouTube

channels which they used to study. This clearly shows they have exposure to YouTube. 88.9 per cent of students have been exposed to Mobile learning, and they share that many times it helps them, and exposure to mobile learning signifies progressiveness in terms of equality and exposure to the studies. Still, 11.1 per cent of students do not have exposure to mobile learning due to many reasons, such as not having access to Mobile phones or not having internet packages, etc., which shows the Digital Divide among the population. 68.5 per cent of students spend time on YouTube daily for study purposes.

Figure-1: Time Spent on YouTube by School Students on daily basis



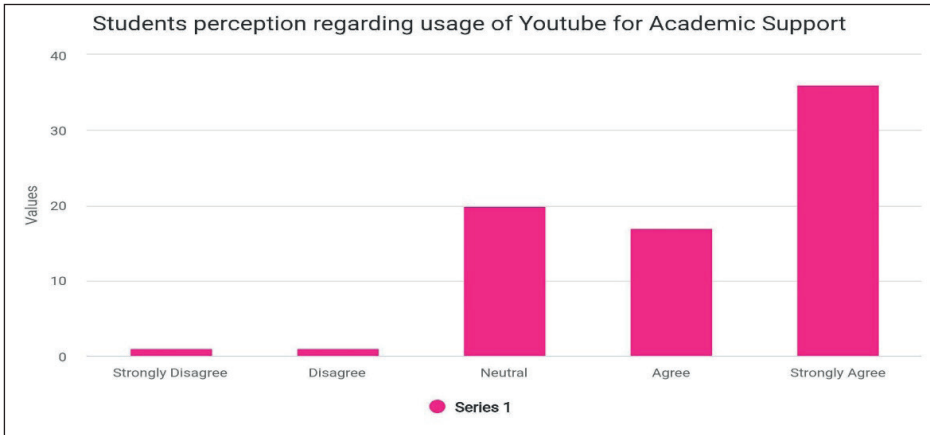
Many learners find out that YouTube is a very interesting and engaging platform for them because there are a number of teachers teaching the same concept in different ways, which helps them fill the learning gaps. The topic they are not able to understand properly, they can listen to it again and again. It is found that students spend time on YouTube to study and also to find information related to studies, like to know about admission procedure, certain notification details, etc. 48 per cent of students out of a total of 75 participants prefer recorded lectures

instead of live sessions on YouTube which shows that live classes through YouTube are not that much effective and the reason behind that is a lot of advertisements and unnecessary comments discussed during the class. 48 per cent, approximately half of the sample, strongly agree that YouTube educational videos help them fill the learning gaps. These educational videos help them to achieve good scores and enhance their academic process. Most participants use YouTube as a medium to study, and when they are absent or not able to understand the concept

in the classroom, they use YouTube videos. 48 per cent, almost half of the population, prefer recorded lectures only. In interview schedules, the major findings were that students prefer

recorded lectures over live lectures because it saves their time, and they will increase the speed and playback again and again until they understand the concept clearly.

Figure-2: Students' Perception Regarding Usage of YouTube for Educational Support



36 out of 75 students that is 48 per cent strongly agree that usage of YouTube for educational purposes helps them in academics. YouTube Educational Videos are very effective as this is the platform that almost every student visits once, and the research is being conducted on the students of schools from both private and government backgrounds. The result is that YouTube is a great medium to study, but there are certain distractions. Many students said that after a few minutes, there would be an advertisement, and because of that advertisement, they lose their concentration level and then move to the shorts or some sort of entertainment which hinders their learning. But at the same time, some students are very enthusiastic and learn from the various channels of YouTube not only for educational, and academic-related topics but also for future trends like universe-related topics, channels, etc. One of the major findings through the data is YouTube Educational Videos using animations which make learning

interesting and increase retention power of the learners. The key findings are that some students use YouTube for their studies when there is some doubt or for specific topics and subjects, some use it for checking for NCERT solutions. Purposes may vary but somehow it is clearly found that it is a platform which is used by students widely and impacts the study of the learners and hence help in bridging the learning gaps among learners. NCERT official YouTube channel provides audio as well as audio-video content delivered by experts helps the learners. E- content is created by NCERT in various formats for school education that helps the learners (Jain & Babbar, 2024).

Implications and limitations of the study

YouTube educational Videos are very effective for long-term memory and also for self-paced learning of individuals. NEP 2020 laid emphasis on the usage of technology in studies. As 21st century

learners, the study using technology is the need of the hour. The appropriate skills must be developed among the learners to use the technology effectively and in this the role of parents and teachers comes to guide the students from time to time. Also, YouTube as a platform has the potential to reach remote areas and help the learners to study. The lockdown also has impacts on the school students as they lack the basics. Some students find it difficult to understand, so they use YouTube so they can rewind the videos many times. Many teachers can explain the same concept so a learner can identify the teacher with whom he /she wants to learn depending on the way of teaching. (Lee et.al, 2017) YouTube compares through self-directed learning perspective by making sense of comments on YouTube educational videos. This shows the clear and strong implications of YouTube educational videos and the limitations in the collection of data. More responses can be added or analyzed. Limitations can be time-variant because time is always lacking on both sides for researchers as well as for the samples.

Conclusion

The integration of technology in education is the need of the hour. After lockdown, it is more important to use technology in education to make it interesting for the students as their concentration power affects it. Learners find YouTube an interesting platform to study because of its features and mechanisms of short and pause options, and rewind options and it is the tool they use for self-paced learning again school teaching or formal training cannot replace these platforms but still have a significant impact on the studies of the learners and to make them curious with the new ideas and innovations.

Recommendations by NEP 2020

NEP 2020 laid emphasis on the integration of technology in education. Technological adoption, when applied in an effective way, has the potential to present appreciable results in education. Educational videos have long-term effects, and YouTube plays an important role. Almost all learners say that they know YouTube and they use it; some use it continuously, and some rarely, but nobody says that they don't know about YouTube. This shows the popularity and, hence, the requirement of study in this field. Educational Technology is an emerging field in the era of the technological revolution. NEP 2020 suggests extensive use of technology in the education system as teaching and learning that helps in removing language barriers, increasing access to special children and helping to cater to educational planning and management (NEP, 2020). National Education policy document on bullet point 6.13. recommends appropriate technology allowing children to study at their own pace and integrate YouTube to provide a significant platform to study at their own pace.

Contribution to the field and recommendations for future research

As broadcast and technical Web portals are beginning to merge with social networking Web sites, it is important to consider how new spaces can leverage Web 2.0 technologies to create a sociotechnical participatory culture in which members feel empowered to engage and participate. More detailed research can be done in terms of comparison of various channels or the types of teachers and the reason for the popularity of certain videos or the learner choice, etc. More detailed research can be done that includes

more geographical areas because, according to areas, the needs and the findings differ. The detailed analysis of the quality of educational videos and their authenticity can be explored in future as it is very important to know

what kind of content is delivered and what its significant effects on learners are. Every classroom must be equipped with the latest-enabled technology (NEP, 2020).

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